

SEQUENCE LISTING

<110> Japan Science and Technology Agency
National Institute of Advanced Industrial Science and Technology

<120> Producing process of plants with sterility, plants produced by the process, and use thereof

<130> A181-08PCT

<150> JP 2004-2192
<151> 2004-01-07

<150> JP 2004-93796
<151> 2004-03-26

<150> JP 2004-221592
<151> 2004-07-29

<150> JP 2004-231544
<151> 2004-08-06

<160> 164

<170> PatentIn Ver. 2.1

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Leu Asp Leu Asn Leu Ala Ala Ala Ala Ala
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Leu Asp Leu Glu Leu Arg Leu
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Leu Asp Leu Glu Leu Ala Ala Ala Ala Ala Ala
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Leu Asp Leu Glu Leu Arg Leu Ala Ala Ala
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Leu Asp Leu Glu Leu Arg Leu Gly
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Met Glu Phe
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20 25 30

Asp His Asp Tyr Leu Leu Gly Phe Ser Trp Pro Pro Arg Ser Tyr Thr
35 40 45

Cys Ser Phe Cys Lys Arg Glu Phe Arg Ser Ala Gln Ala Leu Gly Gly
 50 55 60

His Met Asn Val His Arg Arg Asp Arg Ala Arg Leu Arg Leu Gln Gln
 65 70 75 80

Ser Pro Ser Ser Ser Ser Thr Pro Ser Pro Pro Tyr Pro Asn Pro Asn
 85 90 95

Tyr Ser Tyr Ser Thr Met Ala Asn Ser Pro Pro Pro His His Ser Pro
 100 105 110

Leu Thr Leu Phe Pro Thr Leu Ser Pro Pro Ser Ser Pro Arg Tyr Arg
 115 120 125

Ala Gly Leu Ile Arg Ser Leu Ser Pro Lys Ser Lys His Thr Pro Glu
 130 135 140

Asn Ala Cys Lys Thr Lys Lys Ser Ser Leu Leu Val Glu Ala Gly Glu
 145 150 155 160

Ala Thr Arg Phe Thr Ser Lys Asp Ala Cys Lys Ile Leu Arg Asn Asp
 165 170 175

Glu Ile Ile Ser Leu Glu Leu Glu Ile Gly Leu Ile Asn Glu Ser Glu
 180 185 190

Gln Asp Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala
 195 200

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<213> *Arabidopsis thaliana*

<400> 19

Asn Asp Glu Ile Ile Ser Leu Glu Leu Glu Ile Gly Leu Ile Asn Glu
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Ser Glu Gln Asp Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala
 20 25 30

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Asp Leu Arg Leu Arg Leu
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<210> 25
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<400> 25
Asn Leu Glu Leu Arg Leu
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Gln Leu Glu Leu Arg Leu
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<210> 27
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Asp Leu Glu Leu Asn Leu

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<210> 28

<211> 6

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Asp Leu Glu Leu Gln Leu

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<210> 29

<211> 6

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Thr Leu Glu Leu Arg Leu

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Asp Leu Glu Leu Thr Leu

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<210> 31

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Ser Leu Glu Leu Arg Leu

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Asp Leu Glu Leu Ser Leu

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<210> 39

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Phe Asp Leu Asn Phe
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Phe Asp Leu Asn
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<210> 47

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Leu Asp Leu Gln Leu Arg Leu
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Synthesized Amino Acid Sequence

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Leu Asp Leu Asp Leu Arg Leu
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Leu Asp Leu Asp Leu Gln Leu Arg Leu
1 5

<210> 54
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Leu Asp Leu Asp Leu Asp Leu Arg Leu

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<211> 6

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Asp Leu Gln Leu Arg Leu

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<210> 56

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36

<210> 57

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36

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ctggatctag aactccgttt gggtttogct 30

<210> 63
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agcgaaaccc aaacggagtt ctagatccag 30

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caaacggagt tctagatc

18

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<210> 68

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<210> 69

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<210> 71

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tgcggcagcc aaacggagtt ctagatccag

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ctggatctag aactccgttt gggt

24

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acccaaacgg agttctagat ccag

24

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aacacaatoc aacggtgcaa aattaagatc gaa 33

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<210> 81

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<210> 82

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<210> 83

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<210> 84
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 ccatggagct atggagatta tgataattgc caacaggatc atgattatct tctagggttt 120
 tcatggccac caagatccta cacttgcagc ttctgcaaaa gggaattcag atcggctcaa 180
 gcacttggtg gccacatgaa tgttcacaga agagacagag caagactcag attacaacag 240
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 accatggcaa actctcctcc tcctcatcat tctcctctaa ccctatttcc aaccttttct 360
 cctccatcct caccaagata tagggcaggt ttgatccgtt ccttgagccc caagtcaaaa 420
 catacaccag aaaacgcttg taagactaag aaatcatcto ttttagtgga ggctggagag 480
 gctacaaggt tcaccagtaa agatgcttgc aagatcctga ggaatgatga aatcatcagc 540
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ttgggtttcg cttaa

615

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aatgatgaaa tcatcagctt ggagcttgag attggtttga ttaacgaatc agagcaagat 60
ctggatctag aactccgttt gggtttgcgt taa 93

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gatctaaacc tccgtctg

18

<210> 93

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 93

cagacggagg tttagatc

18

<210> 94

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 94
gatctagacc tccgtctg 18

<210> 95
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 95
cagacggagg tctagatc 18

<210> 96
<211> 18
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 96
gatctacagc tccgtctg 18

<210> 97
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<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 97
cagacggagc tctagatc 18

<210> 98
<211> 18
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 98

gatctacgac tccgtttg

18

<210> 99

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 99

caaacggagt cgtagatc

18

<210> 100

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 100

gagctagaac tccgtttg

18

<210> 101

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 101

caaacggagt tctagctc

18

<210> 102

<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 102
aacctagaac tccgtttg 18

<210> 103
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 103
caaacggagt tctagtt 18

<210> 104
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 104
cagctagaac tccgtttg 18

<210> 105
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 105

caaacggagt tctagctg

18

<210> 106

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 106

gatctagaac tcaacttg

18

<210> 107

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 107

caagttgagt totagatc

18

<210> 108

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 108

gatctagaac tccagttg

18

<210> 109

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 109
caactggagt tctagatc

18

<210> 110
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 110
acgcttgaat taagactc

18

<210> 111
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 111
gagtcttaat tcaagcgt

18

<210> 112
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 112
gatcttgaat taacgctc

18

<210> 113
<211> 18

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 113
gagcgttaat tcaagatc 18

<210> 114
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 114
agccttgaat taagactc 18

<210> 115
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 115
gagtcttaat tcaaggct 18

<210> 116
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 116
gatcttgaat taagcctc 18

<210> 117
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 117
gaggcttaat tcaagatc 18

<210> 118
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 118
gatcttacct taagactc 18

<210> 119
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 119
gagtcttaag gtaagatc 18

<210> 120
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially

Synthesized DNA Sequence

<400> 120
gatcttagct taagactc 18

<210> 121
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 121
gagtcttaag ctaagatc 18

<210> 122
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 122
gatcttcact taagactc 18

<210> 123
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 123
gagtcttaag tgaagatc 18

<210> 124
<211> 18
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 124

gatctcgaat ttcgtctc

18

<210> 125

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 125

gagacgaaat tcgagatc

18

<210> 126

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 126

gatttcgaac tacgtctc

18

<210> 127

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 127

gagacgtagt tcgaaatc

18

<210> 128
<211> 18
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 128
tcgcttgatc tacacctg

18

<210> 129
<211> 18
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 129
caggtgtaga tcaagcga

18

<210> 130
<211> 18
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 130
gatcttacgc taaagctg

18

<210> 131
<211> 18
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 131
cagctttagc gtaagatc

18

<210> 132
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 132
gatcttagcc taaagctg

18

<210> 133
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 133
cagctttagg ctaagatc

18

<210> 134
<211> 232
<212> PRT
<213> Arabidopsis thaliana

<400> 134
Met Ala Arg Gly Lys Ile Gln Ile Lys Arg Ile Glu Asn Gln Thr Asn
1 5 10 15
Arg Gln Val Thr Tyr Ser Lys Arg Arg Asn Gly Leu Phe Lys Lys Ala
20 25 30
His Glu Leu Thr Val Leu Cys Asp Ala Arg Val Ser Ile Ile Met Phe
35 40 45
Ser Ser Ser Asn Lys Leu His Glu Tyr Ile Ser Pro Asn Thr Thr Thr
50 55 60
Lys Glu Ile Val Asp Leu Tyr Gln Thr Ile Ser Asp Val Asp Val Trp
65 70 75 80
Ala Thr Gln Tyr Glu Arg Met Gln Glu Thr Lys Arg Lys Leu Leu Glu

<210> 135
<211> 699
<212> DNA
<213> *Arabidopsis thaliana*

<400> 135						
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tattcaaaga	gaagaaatgg	tttattcaag	aaagcacatg	agctcacggt	tttgtgtgat	120
gctaggggtt	cgattatcat	gttctctagc	tccaacaagc	ttcatgagta	tatcagccct	180
aacaccacaa	ogaaggagat	cgtagatctg	taccaaacta	tttctgatgt	cgatgtttgg	240
gccactcaat	atgagcgaat	gcaagaaacc	aagaggaaac	tgttggagac	aaatagaaat	300
ctccggactc	agatcaagca	gaggctaggt	gagtgtttgg	acgagcttga	cattcaggag	360
ctgcgtctgc	ttgaggatga	aatggaaaac	actttcaaac	tcgttcgcga	gogcaagttc	420
aaatctcttg	ggaatcagat	cgagaccacc	aagaaaaaga	acaaaagtca	acaagacata	480
caaaaagaatc	tcatacatga	gctggaacta	agagctgaag	atcctcacta	tggaactagta	540
gacaatggag	gagattacga	ctcagttcct	ggataccaaa	tcgaagggtc	acgtgcttac	600
gctcttctgt	tccaccagaa	ccatcaccac	tattacccca	accatggcct	tcattgcacc	660
tctgctctgt	acatcattac	cttccatctt	cttgaataa			699

<210> 136
<211> 365
<212> PRT
<213> Arabidopsis thaliana

<400> 136
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Pro Pro Gly Phe Arg Phe His Pro Thr Glu Glu Glu Leu Leu Gln Tyr	20	25	30
Tyr Leu Arg Lys Lys Val Asn Ser Ile Glu Ile Asp Leu Asp Val Ile	35	40	45
Arg Asp Val Asp Leu Asn Lys Leu Glu Pro Trp Asp Ile Gln Glu Met	50	55	60
Cys Lys Ile Gly Thr Thr Pro Gln Asn Asp Trp Tyr Phe Phe Ser His	65	70	75
Lys Asp Lys Lys Tyr Pro Thr Gly Thr Arg Thr Asn Arg Ala Thr Ala	85	90	95
Ala Gly Phe Trp Lys Ala Thr Gly Arg Asp Lys Ile Ile Tyr Ser Asn	100	105	110
Gly Arg Arg Ile Gly Met Arg Lys Thr Leu Val Phe Tyr Lys Gly Arg	115	120	125
Ala Pro His Gly Gln Lys Ser Asp Trp Ile Met His Glu Tyr Arg Leu	130	135	140
Asp Asp Asn Ile Ile Ser Pro Glu Asp Val Thr Val His Glu Val Val	145	150	155
Ser Ile Ile Gly Glu Ala Ser Gln Asp Glu Gly Trp Val Val Cys Arg	165	170	175
Ile Phe Lys Lys Lys Asn Leu His Lys Thr Leu Asn Ser Pro Val Gly	180	185	190
Gly Ala Ser Leu Ser Gly Gly Gly Asp Thr Pro Lys Thr Thr Ser Ser	195	200	205
Gln Ile Phe Asn Glu Asp Thr Leu Asp Gln Phe Leu Glu Leu Met Gly	210	215	220
Arg Ser Cys Lys Glu Glu Leu Asn Leu Asp Pro Phe Met Lys Leu Pro	225	230	235
Asn Leu Glu Ser Pro Asn Ser Gln Ala Ile Asn Asn Cys His Val Ser	245	250	255
Ser Pro Asp Thr Asn His Asn Ile His Val Ser Asn Val Val Asp Thr			

260 265 270
 Ser Phe Val Thr Ser Trp Ala Ala Leu Asp Arg Leu Val Ala Ser Gln
 275 280 285
 Leu Asn Gly Pro Thr Ser Tyr Ser Ile Thr Ala Val Asn Glu Ser His
 290 295 300
 Val Gly His Asp His Leu Ala Leu Pro Ser Val Arg Ser Pro Tyr Pro
 305 310 315 320
 Ser Leu Asn Arg Ser Ala Ser Tyr His Ala Gly Leu Thr Gln Glu Tyr
 325 330 335
 Thr Pro Glu Met Glu Leu Trp Asn Thr Thr Thr Ser Ser Leu Ser Ser
 340 345 350
 Ser Pro Gly Pro Phe Cys His Val Ser Asn Gly Ser Gly
 355 360 365

<210> 137

<211> 1098

<212> DNA

<213> Arabidopsis thaliana

<400> 137

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 aggtttcatc cgaccgagga agagctgttg cagtattatc tccggaagaa agttaatagc 120
 atcgagatcg atcttgatgt cattcgcgac gttgatctca acaagctcga gccttgggac 180
 attcaagaga tgtgtaaaat aggaacaacg ccacaaaacg actggtattt ctttagccac 240
 aaggacaaaa aatatccgac gggaacgaga actaacagag ccaactgcgc tggattttgg 300
 aaagcaactg gccgcgacaa gatcatatat agcaatggcc gtagaattgg gatgagaaaag 360
 actcttgttt tctacaaagg ccgagctcct cacggccaaa aatctgattg gatcatgcat 420
 gaatatagac tcgatgacaa cattatttcc cccgaggatg tcaccgttca tgaggtcgtg 480
 agtattatag gggaagcatc acaagacgaa ggatgggtgg tgtgtcgtat tttcaagaag 540
 aagaatcttc acaaaaccct aaacagtccc gtcggaggag cttccctgag cggcggcgga 600
 gatacgccga agacgacatc atctcagatc ttcaacgagg ataactctga ccaatttctt 660
 gaacttatgg ggagatcttg taaagaagag ctaaactctg accctttcat gaaactcca 720
 aacctcgaaa gccctaacag tcaggcaatc aacaactgcc acgtaagctc tcccgacact 780
 aatcataata tccacgtcag caacgtggtc gacactagct ttgttactag ctgggcggct 840
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 aatgagagcc acgtgggcca tgatcatctc gctttgcctt ccgtccgac tccgtacccc 960
 agcctaacc ggtccgcttc gtaccacgcc ggtttaacac aggaatatac accggagatg 1020
 gagctatgga atacgacgac gtctgtctta tcgtcatcgc ctggccatt ttgtcacgtg 1080
 tcgaatggta gtggataa 1098

<210> 138

<211> 367

<212> PRT

<213> *Arabidopsis thaliana*

<400> 138

Met Gly His His Ser Cys Cys Asn Lys Gln Lys Val Lys Arg Gly Leu
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Trp Ser Pro Glu Glu Asp Glu Lys Leu Ile Asn Tyr Ile Asn Ser Tyr
 20 25 30

Gly His Gly Cys Trp Ser Ser Val Pro Lys His Ala Gly Thr Tyr Thr
 35 40 45

His Ile His Gly Phe Cys Leu Gln Arg Cys Gly Lys Ser Cys Arg Leu
 50 55 60

Arg Trp Ile Asn Tyr Leu Arg Pro Asp Leu Lys Arg Gly Ser Phe Ser
 65 70 75 80

Pro Gln Glu Ala Ala Leu Ile Ile Glu Leu His Ser Ile Leu Gly Asn
 85 90 95

Arg Trp Ala Gln Ile Ala Lys His Leu Pro Gly Arg Thr Asp Asn Glu
 100 105 110

Val Lys Asn Phe Trp Asn Ser Ser Ile Lys Lys Lys Leu Met Ser His
 115 120 125

His His His Gly His His His His His Leu Ser Ser Met Ala Ser Leu
 130 135 140

Leu Thr Asn Leu Pro Tyr His Asn Gly Phe Asn Pro Thr Thr Val Asp
 145 150 155 160

Asp Glu Ser Ser Arg Phe Met Ser Asn Ile Ile Thr Asn Thr Asn Pro
 165 170 175

Asn Phe Ile Thr Pro Ser His Leu Ser Leu Pro Ser Pro His Val Met
 180 185 190

Thr Pro Leu Met Phe Pro Thr Ser Arg Glu Gly Asp Phe Lys Phe Leu
 195 200 205

Thr Thr Asn Asn Pro Asn Gln Ser His His His Asp Asn Asn His Tyr
 210 215 220

Asn Asn Leu Asp Ile Leu Ser Pro Thr Pro Thr Ile Asn Asn His His
 225 230 235 240

Gln Pro Ser Leu Ser Ser Cys Pro His Asp Asn Asn Leu Gln Trp Pro
 245 250 255

Ala Leu Pro Asp Phe Pro Ala Ser Thr Ile Ser Gly Phe Gln Glu Thr
 260 265 270

Leu Gln Asp Tyr Asp Asp Ala Asn Lys Leu Asn Val Phe Val Thr Pro
 275 280 285

Phe Asn Asp Asn Ala Lys Lys Leu Leu Cys Gly Glu Val Leu Glu Gly
 290 295 300

Lys Val Leu Ser Ser Ser Ser Pro Ile Ser Gln Asp His Gly Leu Phe
 305 310 315 320

Leu Pro Thr Thr Tyr Asn Phe Gln Met Thr Ser Thr Ser Asp His Gln
 325 330 335

His His His Arg Val Asp Ser Tyr Ile Asn His Met Ile Ile Pro Ser
 340 345 350

Ser Ser Ser Ser Ser Pro Ile Ser Cys Gly Gln Tyr Val Ile Thr
 355 360 365

<210> 139

<211> 1104

<212> DNA

<213> Arabidopsis thaliana

<400> 139

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 cctaaacatg caggcactta tacacatata catgggtttt gttgcagag atgtggaaag 180
 agttgtagat taagatggat aaattatcta agacctgac ttaaactgtg aagcttctct 240
 cctcaagaag ctgctcttat cattgagctt cacagcattc ttgtaacag atgggtctaa 300
 attgctaaac atctacctgg aagaacagat aacgaggtca agaatttctg gaactcgagc 360
 attaaaaaga agctcatgto tcaccatcat caccgtcatc atcatcatca tctctcttcc 420
 atggcgagtt tgctcacaaa ccttccttat cacaatggat tcaaccctac tacagtcgac 480
 gatgaaagtt caagattcat gtccaatato atcacaacaa ctaaccctaa tttcatcact 540
 ccaagccaac tctctcttcc ttctcctcat gttatgacct cattgatgtt cccaacctct 600
 agagaaggag atttcaagtt tctaaccaca aacaacccaa accaatctca tcaccatgat 660
 aataaccatt acaacaacct cgacattttg tcaccacac caactataaa caatcatcat 720
 caaccttcac tttcttcttg tctcatgat aataatctcc aatggccagc gttaccagat 780
 ttcccagcga gtaccatttc tggtttccaa gaaacccttc aagattatga tgatgcta 840

aaactcaacg tgtttgtgac accattcaac gataatgcca aaaagttatt atgtggagaa 900
 gtctcgaag gcaaagtact atcttcctcc tcaccaattt cacaagatca cggcctttt 960
 ctccccacca cgtacaactt tcaaatgact tctacgagtg atcatcaaca tcatcatcga 1020
 gtggactcat acatcaatca catgatcata ccatcatcat cctcatcgtc gccaatctct 1080
 tgtggacagt acgtcataac ttaa 1104

<210> 140

<211> 253

<212> PRT

<213> *Arabidopsis thaliana*

<400> 140

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Lys Ser Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr
 20 25 30

Asn Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys
 35 40 45

Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val
 50 55 60

Phe Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Ser Val Lys
 65 70 75 80

Gly Thr Ile Glu Arg Tyr Lys Lys Ala Ile Ser Asp Asn Ser Asn Thr
 85 90 95

Gly Ser Val Ala Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala
 100 105 110

Lys Leu Arg Gln Gln Ile Ile Ser Ile Gln Asn Ser Asn Arg Gln Leu
 115 120 125

Met Gly Glu Thr Ile Gly Ser Met Ser Pro Lys Glu Leu Arg Asn Leu
 130 135 140

Glu Gly Arg Leu Glu Arg Ser Ile Thr Arg Ile Arg Ser Lys Lys Asn
 145 150 155 160

Glu Leu Leu Phe Ser Glu Ile Asp Tyr Met Gln Lys Arg Glu Val Asp
 165 170 175

Leu His Asn Asp Asn Gln Ile Leu Arg Ala Lys Ile Ala Glu Asn Glu
 180 185 190

Arg Asn Asn Pro Ser Ile Ser Leu Met Pro Gly Gly Ser Asn Tyr Glu
 195 200 205

Gln Leu Met Pro Pro Pro Gln Thr Gln Ser Gln Pro Phe Asp Ser Arg
 210 215 220

Asn Tyr Phe Gln Val Ala Ala Leu Gln Pro Asn Asn His His Tyr Ser
 225 230 235 240

Ser Ala Gly Arg Gln Asp Gln Thr Ala Leu Gln Leu Val
 245 250

<210> 141

<211> 762

<212> DNA

<213> Arabidopsis thaliana

<400> 141

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cgtagaaatg gtttgcacaa gaaagcttac gagctctctg ttctttgtga tgctgaagtc 180
gcactcatcg tottctctag ccgtggctgt ctctatgagt actctaaca cagtgtaaaa 240
gggactattg agaggtaaca gaaggcaata tcggacaatt ctaacaccgg atcgggtggca 300
gaaattaatg cacagtatta tcaacaagaa tcagccaaat tgcgtcaaca aataatcagc 360
atacaaaact ccaacaggca attgatgggt gagacgatag ggtcaatgtc tcccaaagag 420
ctcagggaact tggaaggcag attagagaga agtattacco gaatccgac caagaagaat 480
gagctcttat tttctgaaat cgactacatg cagaaaagag aagttgattt gcataacgat 540
aaccagattc ttctgtcaaa gatagctgaa aatgagagga acaatccgag tataagtcta 600
atgccaggag gatctaacta cgagcagctt atgccaccac ctcaaacgca atctcaaccg 660
tttgattcac ggaattatit ccaagtcgcg gcattgcaac ctaacaatca ccattactca 720
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<210> 142

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
 Synthesized Primer Sequence

<400> 142

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<210> 143
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Primer Sequence

<400> 143
 gatccagtaa gcttaattgg ttccggcgcc 30

<210> 144
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Primer Sequence

<400> 144
 tagaattcgc ggccgcactc gag 23

<210> 145
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Primer Sequence

<400> 145
 gagaattcgg gccagagctg cagctggatg g 31

<210> 146
 <211> 82
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 146
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 oggggggtacc gtcgacgagc tc 82

<210> 147
 <211> 73
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 147
 cgtcgacggt acccccggga totgtaattg taatgttggt tgtgtttgt tgtgttggt 60
 aattgtggat cct 73

<210> 148
 <211> 43
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 148
 gggcttgatc tggatctaga actccgttg ggtttcgctt aag 43

<210> 149
 <211> 47
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 149
 tcgacttaag cgaaacccaa acggagtct agatccagat caagccc 47

<210> 150
 <211> 29
 <212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 150

atgaccgcgt accaatcgga gctaggagg

29

<210> 151

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 151

cactaactgg agagcggttt ggtcttggcg

30

<210> 152

<211> 6

<212> PRT

<400> 152

Asp Leu Ser Leu Asp Leu
1 5

<210> 153

<211> 18

<212> DNA

<400> 153

gatcttagcc taagcctg

18

<210> 154

<211> 18

<212> DNA

<400> 154

caggcttagg ctaagatc

18

<210> 155
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 155
gatgatgtca aaatctatga gcatatc

27

<210> 156
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 156
tccactacca ttgacacgt gac

23

<210> 157
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 157
gatgggtcat cactcatgct gcaacaagca

30

<210> 158
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 158
agttatgacg tactgtccac aagagattgg 30

<210> 159
<211> 75
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 159
gatccacaat taccaacaac aacaaacaac aaacaacatt acaattacag atcccggggg 60
taccgtcgac gagct 75

<210> 160
<211> 67
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 160
cgtcgacggt acccccggga tctgtaattg taatgttgtt tgttgtttgt tgttgttggt 60
aattgtg 67

<210> 161
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 161
gatggcgaga gggaagatcc agatcaag 28

<210> 162
<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 162

ttcaagaaga tggaaggtaa tgatg

25

<210> 163

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 163

ctggatctgg atctagaact ccgtttgggt ttogcttaag

40

<210> 164

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 164

cttaagcgaa acccaaacgg agttctagat ccagatccag

40